



Chicago White Metal Casting

High-Tech Al, Mg, Zn & Zr Die Casting
 Rte. 83 & Fairway Dr., Bensenville, IL 60106
 Tel: 1-630-595-4424 Fax: 1-630-595-9160
 E-mail: sales@cwmil.com
 Website: <http://www.cwmil.com>

Kodak, Nikon and CWM raise the professional digital camera bar

New Kodak® Professional DCS 620 Digital Camera 1st to Offer Premier Nikon Optics—Encased in Magnesium

While many of the most outstanding professional photographers continue to be dedicated to exposing their images on film, the flexibility and quality of digital imaging is rapidly gaining acceptance among professionals.

Kodak has played an important role in this expansion with a growing portfolio of innovative professional digital cameras. Its latest precedent-setting model is the DCS 620.

Built on the Nikon "Gold Standard" Jointly developed by Kodak and Nikon, the new Kodak Professional DCS 620 digital camera is in an imaging class by itself.

It offers commercial photographers Kodak's leading digital technology for high-resolution imaging, with portability—in a unit built around Nikon's world-class F-5 family of optics and accessories. Referred to as the "gold standard" by professionals, the Nikon F-5 system combined with advanced Kodak digital imaging opens up new flexibility and productivity to photo journalists and high-end shooters worldwide.

Premier Camera, Premier Housing In upgrading every aspect of digital imaging

performance and reliability, Kodak engineers reevaluated all existing approaches to portable digital camera enclosure design and manufacturing. Current designs for such professional units virtually all make use of plastic housings encasing aluminum cast or metal stamped camera bodies.

Pro DCS 620: 1st Mag Die Cast Case Investment casting was researched for the new camera's enclosure, since it would provide ruggedness and the quality feel of metal appropriate for a high-end product; it was rejected based on inadequate precision and dimensional wall requirements up to three times thicker than desired. Plastic molding was reexamined and aluminum die casting investigated.

The final material and process decision went to hot-chamber magnesium die casting from Chicago White Metal Casting.

EMI Shielding, Cost Questions

Engineers at Kodak have extensive knowledge of EMI/RFI shielding as it applies to increasingly complex, high-speed digital devices. As true of most product design engineers, they were less familiar with designing for magnesium die casting production.

Questions were raised as to possible increased weight and costs, as compared to plastic, and approaches that might be required to assure shielding integrity.

Mag die castings for Kodak's DCS 620 camera case, (left) from front perspective, and (right) from camera rear, provide built-in EMI shielding.



The new Kodak Professional DCS 620 digital camera, built on Nikon's F-5 optics family, with mag die cast case by Chicago White Metal.

Goals Achieved On All Fronts

The final case provides ruggedness, high impact strength, and a cosmetic surface finish—as cast. Thirwall hot-chamber Mg die casting resulted in a total unit weight 1/4 lb. less than originally conceptualized in plastic.

Through the use of innovative single-lap Mg edge joint designs by Kodak engineering, no EMI seam gaskets are used at any of the metal joints to pass the most stringent EMI emission tests. It was EMI concerns that mainly ruled out plastics, against the built-in shielding of a metal case.

Bottom line: final product costs were comparable to a plastic molded alternative.

Assuring Castability for Exotic Shapes

Complex geometry characterizes the camera's sleek case design. Early consultation with CWM engineers, combined with 3D modeling and successive prototype evaluation, assured meeting final castability and functional goals.

High-precision CNC secondary machining, including 17 M1.7 x .35 threads, is provided by CWM. The parts are delivered painted and silkscreened, with a primer and three coats of black polyurethane hypotherm paint.

For information on CWM high-tech die casting in Al, Mg, Zn or ZA-8, contact your CWM Representative or CWM's Sales Dept. ■

